

**PATENT**

Atty Docket No.: 100201439-1  
App. Ser. No.: 10/681,556

**REMARKS**

Favorable reconsideration of this application is respectfully requested in view of the amendments above and the following remarks. Claim 3 was previously canceled without prejudice or disclaimer of the subject matter contained therein. Claims 1-2 and 4-17 are pending, of which claims 1, 10, 15, and 17 are independent.

Claims 10 and 15 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite.

Claims 10 and 15 were rejected under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter.

Claims 1, 4, 5, 8-12, 15, and 17 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shmuel Ur et al. (20030110474) in view of Cahill et al. ("The Java metrics Reporter – An Extensible Tool for OO Software Analysis," 2002, IEEE), Benlarbi et al. ("Polymorphism Measures for Early Risk Prediction", 1999, ACM), and Mitchell et al. "Towards a definition of run-time object-oriented metrics," July 22, 2003, ECOOP.

Claims 6 and 13 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shmuel Ur et al. in view of Cahill et al., Benlarbi et al., and further in view of Ball ("The Concept of Dynamic Analysis," Bell Laboratories Lucent Technologies, 1999).

Claims 2 and 16 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shmuel Ur, Cahill, Benlarbi, and Kuzmin et al.

The above rejections are respectfully traversed for the reasons stated below.

**Drawings**

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The Examiner's indication of the acceptance of the drawings as filed on October 8, 2003 is appreciated.

**Claim Rejections Under 35 U.S.C. §112, second paragraph**

Claims 10 and 15 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite because there is "insufficient antecedent basis" for the term "machine readable medium" in the claims.

It is respectfully submitted that the term "machine readable medium" is first introduced in Claims 10 and 15. That is why claims 10 and 15 recite "*a* machine readable medium" instead of "*the* machine readable medium." Thus, such an introduction of the term serves as antecedent basis for subsequent references to the same term.

It appears from the rejection that the Office Action was actually alleging that the term "machine readable medium" lacks support in the specification as required in MPEP 608.01(o). However, it is respectfully submitted that such an allegation cannot be the basis for a rejection under 35 U.S.C. §112, second paragraph, for indefiniteness. At best, it amounts to an objection to the specification.

Furthermore, as stated in a previous amendment, support for the amended language in Claims 10 and 15 is inherently found in at least paragraphs [0008] and [0009] of the originally-filed disclosure (as paragraph numbered in its publication 2005/0081106). This is because, as understood in the art, any software program must be stored in a machine-readable medium in order to be read by an executing machine to implement applications provided by such a software program. Because such an understanding is inherent to one skilled in the art, it was not explicitly stated in the specification. However, in the interest of expediting the

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prosecution of the application and satisfying the Examiner with regard to the requirements in MPEP 608.01(o), the specification has been amended at paragraph [0009] to explicitly recite the implementation of a “machine readable medium.” Because such an implementation is inherent based on a reading of the application, no new matter has been introduced by this amendment to the specification.

Accordingly, it is respectfully submitted that Office Action failed to properly reject claims 10 and 15 under 35 U.S.C. §112, second paragraph, and withdrawal of such a rejection is respectfully requested.

**Claim Rejections Under 35 U.S.C. §101**

Claims 10 and 15 were rejected under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter, again, because it was alleged that there is “a lack of antecedent basis” of the term “machine readable medium” in the claims.

It is respectfully submitted that such an allegation cannot be the basis for a rejection under 35 U.S.C. §101 for non-statutory subject matter. Furthermore, because the specification has been amended, as desired by the Examiner, to explicitly recite the implementation of a “machine readable medium,” it is respectfully submitted that such a recitation satisfies the Examiner’s requirement for compliance with 35 U.S.C. §101.

Accordingly, withdrawal of the rejection of these claims under 35 U.S.C. §101 is respectfully requested.

**Claim Rejections Under 35 U.S.C. §103(a)**

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The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in MPEP § 706.02(j):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Therefore, if the above-identified criteria are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

Independent Claims 1, 10, 15, and 17

Claims 1, 4, 5, 8-12, 15, and 17 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Shmuel Ur et al. in view of Cahill et al., Benlarbi et al., and Mitchell et al.

Independent claims 1, 10, 15, and 17 all recite,

determining a static use count of said system classes...;  
deriving a dynamic use count of each of said system classes...;  
assigning a proportional weighing attribute to each system class based on its corresponding static use count and dynamic use count....

The Office Action admitted that Shmuel Ur et al. does not disclose these claimed features.

Office Action, p. 5. However, the Office Action attempted to cure these defects by alleging that Cahill et al., Benlarbi et al., and Mitchell et al. together disclose such claimed features.

Specifically, it was alleged that Cahill et al. discloses both static and dynamic use count of

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each of said system classes in Section 3.4 for Method Inheritance Factor (MIF) and Section 3.5 for Polymorphism Factor (PF).

It is respectfully submitted that Cahill et al. is directed to a Java Metrics Reporter (JMR) used for software analysis to determine the complexity of a software. To that effect, the JMR employs a number of pre-selected metrics for measuring software complexity, such as the Basic metrics, complexity metrics, inheritance metrics, and polymorphism metrics, as stated in Section 3.1 and cited by the Office Action. However, Cahill et al. provides no discussion regarding a reliance on a determined static use count of system classes and derived dynamic use count of each of the system classes in order to assign a proportional weighing attribute to each system class. At best, Cahill et al. mentions the use of a complexity metric called "weighted methods per class (WMC)" in Section 3.3. However, that metric is for measuring the sum of complexities of all methods of a class, and not for determining or deriving the static and dynamic use counts of each of the system classes as claimed, nor for assigning a proportional weighing attribute to each system class based on such counts.

As for the MIF in Section 3.4 of Cahill et al. as cited in the Office Action, it is an inheritance metric that is defined as "the proportion of the inherited methods of a class relative to all available methods of that class, averaged over all classes in the system." *See* Cahill et al., Section 3.4. Thus, the MIF has nothing to do with determining a static use count of a class or a deriving a dynamic use count of a class as claimed. As for the PF in Section 3.5 of Cahill et al. as cited in the Office Action, it is a polymorphism metric that is defined as the proportion of the number of polymorphic situations of a class..., relative to the maximum potential number of polymorphic situations occurs when every method in a class is overridden by every one of its descendents." *See* Cahill et al., Section 3.5. Thus, the PF has

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nothing to do with determining a static use count of a class or a deriving a dynamic use count of a class as claimed.

It is respectfully submitted that neither Benlarbi et al., Ball, nor Mitchell et al. cures the aforementioned defects found in Shmuel Ur et al. and Cahill et al. Indeed, Benlarbi et al. discusses the use of polymorphism measures for early risk prediction that may be based on run-time binding (allegedly dynamic) decisions and compile time (allegedly static) linking decision. However, there is no mention of any determination or derivation of both static and dynamic use counts of the system classes and assignment of a proportional weighing attribute to the system classes based on such counts as claimed. Ball discusses the concept of only dynamic analysis with no mention of any determination or derivation of both static and dynamic use counts of system classes and assignment of a proportional weighing attribute to the system classes based on such counts. Likewise, Mitchell et al. teaches the use of coupling metrics CBO that is defined as the number of classes to which one of the classes is coupled. See Mitchell et al., page 4, first column. Thus, such a definition is not the same as a determination or derivation of both static and dynamic use counts of system classes.

Accordingly, it is respectfully submitted that the Office Action failed to establish a *prima facie* case of obviousness against claims 1, 10, 15, and 17 and their dependent claims 2, 4-9, 11-14, and 16. Withdrawal of the rejection of claims 1, 2, and 4-17 and their allowance are therefore respectfully requested.

Claims 6 and 10

Claims 6 and 13 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shmuel Ur et al., Cahill et al., Benlarbi et al., and Ball.

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Claim 6 depends on claim 1, and claim 13 depends on claim 10. However, the Office Action used Mitchell et al. to reject claims 1 and 10 but not to reject claims 6 and 13.

Therefore, it is respectfully submitted that the combination of Shmuel Ur et al., Cahill et al., Benlarbi et al., and Ball cannot be used to reject claims 6 and 13 without further using Mitchell et al., as evidence by the rejection of claims 1 and 10. Furthermore, claims 6 and 13 are allowable over the references of record for at least the reasons set forth above for claims 1 and 10.

**Claims 2 and 16**

Claims 2 and 16 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shmuel Ur, Cahill, Benlarbi, and Kuzmin et al.

Claim 2 depends on claim 1, and claim 16 depends on claim 15. However, the Office Action used Mitchell et al. to reject claims 1 and 15 but not to reject claims 2 and 16. Therefore, it is respectfully submitted that the combination of Shmuel Ur et al., Cahill et al., Benlarbi et al., and Kuzmin et al. cannot be used to reject claims 6 and 13 without further using Mitchell et al., as evidence by the rejection of claims 1 and 10. Furthermore, claims 2 and 16 are allowable over the references of record for at least the reasons set forth above for claims 1 and 15.

**Conclusion**

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

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Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 08-2025.

Respectfully submitted,

Dated: September 5, 2007

By

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